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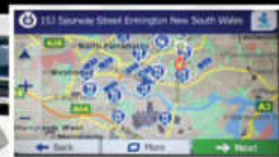
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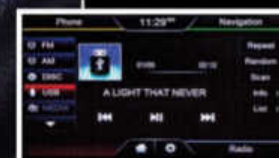
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RETAIL SALES AND OVERSEAS DISTRIBUTION

Mark Coles

PUBLISHED BY

EMG, a division of Express Publications Pty
Ltd ACN 057, 8087 904, under licence from
EP Investments Pty Ltd ACN 003 109 055
All rights reserved 2 Stanley St Silverwater
NSW 2128. Phone: (02) 9741 3800
Fax: (02) 9748 1956
www.expresspublications.com.au

DISTRIBUTED BY

Network Distribution Company
54 Park St, Sydney
Phone: (02) 9282 8777

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FIND US ON



OLD GEAR, GOING STRONG

When I was a kid it was always really exciting to read all about the new engines that were coming out in the following year's models. Just like today, the catches back then were all about more power, more torque, lower emissions and better fuel economy, but looking back it seems the days when more power and torque were actually important from an enthusiast standpoint are long gone.

The Toyota 2JZ-GTE was first available for sale in 1991 in a car called the Aristo but it wasn't until its mass release in the JZA80 Supra in April of 1993 that it made a name for itself. The inline six-cylinder built on the successes of the 1JZ and 7M engines that had preceded it with increased power and torque dramatically improving performance of the newer, lighter Supra.

More than just a great performer in its own right, the enthusiast market quickly latched onto the 2JZ-GTE as a modifiers delight and it wasn't long before stories of 600hp "unopened" engines were commonplace. By the early 2000s workshops like Titan Motorsports had race versions of the 2JZ making 1500hp and by 2010 their own full chassis drag car, a Toyota Scion tC, was one of the first 5 cars on the planet, of any engine type or size, to run in the three-second zone over the eighth mile in the ADRL's XTF category.

To run over 180mph in an eighth of a mile meant the Toyota 2JZ cast alloy head and factory iron block was producing over 2000hp – a feat to which not many engines can lay claim. Today the world's quickest and fastest 2JZs are producing more than 2500hp and have been as fast as 248mph over the quarter mile. Earlier this year a team in Bahrain cracked the five-second mark as well – an amazing prospect and testament not only to the crews and tuners that produce these astounding performances, but to the brains at Toyota who laid the groundwork more than 25 years ago.

On the other side of the North Pacific another child of the '90s was taking shape before its eventual release in 1997. The LS1 as first seen in the Chevrolet Corvette would go on to become one of the most prolific V8s of all time powering everything from regular passenger cars like our own Holden Commodore to hand-built supercars like the Mosler MT900.

The modification timeline ran very similarly to the Toyota 2JZ with fans and the aftermarket alike recognising the potential of the EFI V8 early on and building a huge range of parts to increase the output and longevity of the inexpensive successor to the venerable Chevy small block. Like the 2JZ, the LS1 shone brightest when boosted and it wasn't long before forced induction, particularly turbocharging, was being employed both in street car applications and in racing.

Unlike its Japanese counterpart however, the LS doesn't fare well in terms of outright power when using the standard parts and it's only when everything is replaced, including the block, crank and heads, that it is allowed to shine [see: Ship of Theseus Paradox]. The quickest and fastest LS engines, successors to the LS1 and only bearing a passing resemblance to the original, are a long way behind the older Toyota to the tune of about three-tenths and 25mph over the quarter. What's more, most of the hardcore LS race engines displace roughly seven litres (427ci). That's more than double the largest 2JZ ever built.

The point isn't to crap on one of the most popular engines of all time – quite the opposite, in fact. These two engines are now old designs, more than 20 years old in fact and they're still kicking arse and taking names. This is in stark contrast to the newer engines that, despite years of development, (in the case of the Japanese V6 engines like the VR38 which is really an evolution of the VQ that came out 21 years ago), are yet to set the world on fire in terms of outright performance.

It's still exciting to read about the new engines that big car manufacturers come out with but I'm afraid it's nowhere near as exciting as the gear they served up decades ago.

See you next time.

Adrian

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**I DON'T KNOW
ABOUT YOUR
DRIVING PROWESS
BUT FROM WHERE
WE SEE THINGS
IN THE DRIVER
EDUCATION INDUSTRY
THE CURRENT SYSTEM
OF LEARNING TO
DRIVE IS NOT
KEEPING UP WITH
THE FAST CHANGING
PACE OF LIFE.**

A.B.S – FRIEND OR FOE?

Anti-lock braking (ABS) has been around for a very long time yet it never ceases to amaze me or my professional team of driver trainers that most people have no idea how it works. If drivers are exposed to a panic stop their first reaction is to release brake pressure. On the road this has resulted in many drivers crashing with the same comment – 'The brake pedal went all funny.' Referred to as an accident by authorities, you have to ask, did the driver learn from this or could they be a repeat offender?

From our perspective these drivers have learnt nothing and will continue down the same path blissfully unaware it was their fault. Enlightenment is an amazing thing and through education people learn. Most drivers start their journey learning basic mobility skills taught by someone with more experience. The term used for a novice driver is – unconsciously incompetent. With practice people become more conscious of their actions with competency or skills hopefully developed to a higher level. Notice how I included the word hopefully? Now we are supposed to have drivers that are consciously competent meaning they are fully aware of their actions and can handle any challenge that comes their way.

I don't know about your driving prowess but from where we see things in the driver education industry the current system of learning to drive is not keeping up with the fast changing pace of life. Now include advances in motor vehicle technology, busier roads and impatience and it is easy to see why so many drivers are unconsciously unaware of what to do in a panic situation.

It's not their fault either. They just don't know how technology functions which must shift the blame back to governments that dictate what method of driver training/development is acceptable. Australia is a progressive country. We lead the world in medicine, engineering and many other pursuits, however the one area where we fall behind is driver education. It's time our elected politicians showed leadership and set up a taskforce to look into what are best practices. By setting the wheels in motion, at least this gets the subject on the table creating robust discussion.

Recently I travelled south from Perth WA to a little town called Augusta. A four-hour drive on roads of a very high standard and with spectacular scenery. Now throw in Murphy's Law, you know, when it can go wrong it will. One minute we are bathed in glorious sunshine, cruise control set on 100km/h, life is perfect, and then the sky opens up. I'm talking torrential rain creating massive water flow with limited vision.

Wipers on full speed, deactivate cruise control as this gives you more feel and driver control and I slowed to about 80km/h. At this speed driving was still treacherous, even though I was in a 5 star all-wheel drive vehicle. The term aquaplaning refers to the situation when the amount of water being dispersed by the tyre tread isn't sufficient to maintain grip. As a rule of thumb, the average water displacement per fully treaded tyre is about six litres per second at 100km/h. That's 24 litres every one second so you can quickly see why we are constantly reminded to slow down.

Tragically we witnessed a single car crash where a driver slid off the road at speed smashing into trees. This situation where the driver made a massive error of judgment could come back to a lack of education, knowledge and awareness. This was not a planned accident, they never are, total loss of control, maybe tyre pressures too low or poor quality tyres with minimal tread but definitely inappropriate speed for the conditions!

Just because the sign-posted speed is 100km/h many drivers think it's still ok to drive at this legal speed. On the race track wet weather is guaranteed to keep the lap record intact. We even change tyres to specially constructed grooved wets for improved grip. But we still slow down adjusting acceleration, braking and cornering. Being a consciously competent driver, knowing your limits and that of your vehicle comes about through knowledge and specialised driver education programs.

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Ian 'Luffy' Luff**



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THE ELEMENT OF SURPRISE

I've always understood the appeal of a sleeper and now I have experienced it in a motorsport setting

After having a play in Dad's AWD turbo at the Tamworth round of the NSW Hillclimb Championship, for the following event at Ringwood Park I was offered a drive in a mate's newest creation.

Brett Manderson and I have been doing hillclimbs together since the start of 2012. Brett's previous steed, and he still owns it, is a blue EF Fairmont Ghia with an angry 351ci Windsor V8. The new toy however, which he drives over 1,000km a week, is a red EL Falcon that Crescent Motorsport performed an aspirated Barra DOHC 4L and 6-speed manual conversion on. After that was sorted it then had an FG turbo hung off the side, now pumping in up to 14.5psi (as controlled by an eBoost2) when it's on E85.

The car is a proper sleeper capable of 12.3@115.9mph. Brett has added his spotlights and kept the front sun visor and rear louvre. With an LPG tank in the boot, as well as tools and tyres to carry, it was also necessary to install the roof racks and attach the pod so we could fit enough camping gear for two people. As a result so we could fit enough camping gear for two people. As a result we rocked up in a car that looked like it was on holiday. Even the seasoned locals at the entrance to the pit area jovially told us that we forgot to hitch up our race car's trailer.

We unpacked, scrutineered the car and then did some practice runs on Saturday for Brett to learn the track (its layout was extended last year but he had to miss the event) and for me to learn the car. Apart from the pedal positions and sensitivity being different the main thing I noticed is it drives just like a V8 only quicker; there just was no lag (I have driven stock BF-FG turbo sixes and they do have some lag).

It was tricky to put the power down since there was so much of it on tap, but once the track rubbered-in again during competition on Sunday, and the sun had been on it for a while, the big, fat, roughly 1,700kg EL just hooked up and launched like a small race car. Brett's best first split time of 4.00sec and mine of

4.06sec were quicker than absolutely everything there that was over 1,000kg and didn't have AWD.

We even took the commentator by surprise. Brett told me that on one of my runs the announcer was talking-up hillclimb participation by pointing out that you can drive anything, highlighting the accessories. Then after seeing my second split time he realised, in Brett's words, "hang on, that thing is actually quick".

It did suffer a bit mid-corner compared to my EB due to the extra weight, but clearly accelerated harder on each straight section so my uphill and downhill sector times were almost identical to what the EB did the year before. The EL's best launch was a few tenths better so it was therefore theoretically quicker overall however my best actual time was a tenth outside my EB's PB because having so much power available makes it harder to reach the EL's full potential (power oversteer was easy to get but it's slower).

Still, we did enough for me to post the quickest time for any car in the Road Registered classes on the day (pipping Dad in his WRX by just two hundredths) and for Brett to complete a 1-2 finish in the Road Registered Non-Log Booked Over 2,500cc 2WD class by only being a quarter of a second behind me. Brett was actually 0.16sec quicker to the top of the hill than me on his best run but I made up for it on the final downhill sector.

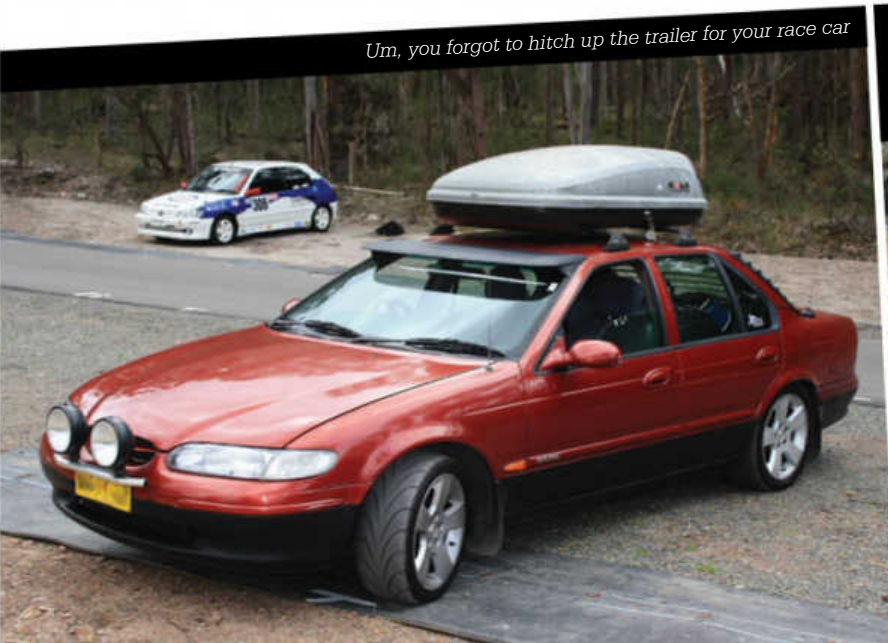
It was interesting to drive another E Series with a rather different powerplant and to compare myself to another driver in the same car. It was also the most fun I've had at an event for a long time having swapped the lead back and forth through the day with Steve Fowler who ultimately placed 3rd in his VX SS after Brett came through for 2nd on his final run. Sleepers rock.

Sam Hollier
sam@streetfords.com

Um, you forgot to hitch up the trailer for your race car

Brett was quicker than me up the hill, but I was better back down the other side, and we were both quite happy with first and second in class

You can do hillclimbing in anything; look it's got roof racks and spot lights... hang on, this thing's actually quick



WICKED WORKSHOP:
ULTIMATE PARTS BIN
GT FORD PERFORMANCE



DON'T FEAR THE **REBUILD**



STORY BY ADRIAN HODGSON & SAM HOLLIER
PHOTOGRAPHY BY SHAWN MCCANN

With the classic Falcon GT approaching 50 years old, quality parts and accessories should be hard to find. Thanks to GT Ford Performance that's anything but the case!

WICKED WORKSHOP: ULTIMATE PARTS BIN GT FORD PERFORMANCE

Ford made fewer than 5000 XW and XY GTs (including HO variants) so they were a rare thing to begin with. Factor in accidents, the ravages of time and the fact that many genuine cars were lost to the ages or simply parked and taken out of circulation and these Aussie motoring icons are more desirable now than ever.

Plenty of people want to own one but far fewer can afford them, with cars in poor condition often selling for many tens of thousands of dollars. Vehicles that just ten years ago might have been fit for scrap or the crusher are now being restored to better than their former glory thanks to passionate owners, skilled tradies and the wealth of knowledge and experience at parts suppliers like GT Ford Performance.

David Frake is the owner of the coolest Ford parts shop we've ever seen and says that the shop became a reality, in part, out of necessity. Way back when he only had the XT GT, David got into having parts made for his own car after Ford had already deemed them to be obsolete. David's friends in the car club would then ask "where did you get that from?" to which David would reply "had 'em made". The question that would then follow was "can you get me a set?" to which David would reply "no problems".

**GONE ARE THE DAYS OF
SCOURING SWAP MEETS AT THE
CRACK OF DAWN OR PAYING
BLOOD MONEY FOR DODGY PARTS
OUT OF A TRADER PAPER.**





After the bollards you notice the wheel caps as push pads on the doors



This demand for specific parts, with Ford having deemed any parts over about 10 years old to be obsolete, eventually prompted David and a business partner to open GT Ford Performance as a combined workshop and performance parts centre in the early '80s. Located in Niddrie, Vic, for a bit over 15 years they serviced, repaired, stripped and rebuilt whole cars for customers, as well as supplied parts that Ford no longer carried.

What this means for owners and would-be owners of classic Falcons is that, no matter whether they're chasing a specific

genuine part from the correct era to complete their concours build or just a set of repro door trims to dress up their worn but loved weekend cruiser, the team at GT Ford Performance can help. Gone are the days of scouring swap meets at the crack of dawn or paying blood money for dodgy parts out of a trader paper. GT Ford Performance have already done the hard yards, tracked down the parts you'll need and have the experience and knowledge to identify and sell authentic items or the highest quality reproduction parts available.

WICKED WORKSHOP:
ULTIMATE PARTS BIN
GT FORD PERFORMANCE



The XB GT Hardtop is David's as well. This is a heavily-optioned and unrestored car with a modified engine, and it too carries full rego



It's not hard to see why so many of Australia's Falcon enthusiasts make GT Ford Performance their first stop when chasing parts. It's not just about having stock or being able to source really hard to get bits and pieces. Having the confidence to spend good money on parts comes from credibility and its only through being genuine GT enthusiasts themselves with decades of combined experience that this sort of credibility is earned.

It doesn't hurt that the shop is an

amazing place to visit either. In around 2000, GT Ford Performance changed its focus from stripping and building cars to only supplying and restoring parts for them. Shop manager Michael Hansen describes the current setup as a "boutique workshop". The building was renovated and the floor space was turned into a storage area out the back, and a nostalgic display area in the front half that also attracts travellers who are car enthusiasts and they just go in to see the place.



CAR ENTHUSIASTS GO INTO THE SHOP JUST TO HAVE A LOOK AT ALL THE NOSTALGIA ON DISPLAY



Clocks, stereos and tachos – all the good bit syou wish you had but don't

9in diffs as bollards outside the shop front are just the beginning of using old Ford parts as decorative building-related items



**WICKED WORKSHOP:
ULTIMATE PARTS BIN
GT FORD PERFORMANCE**

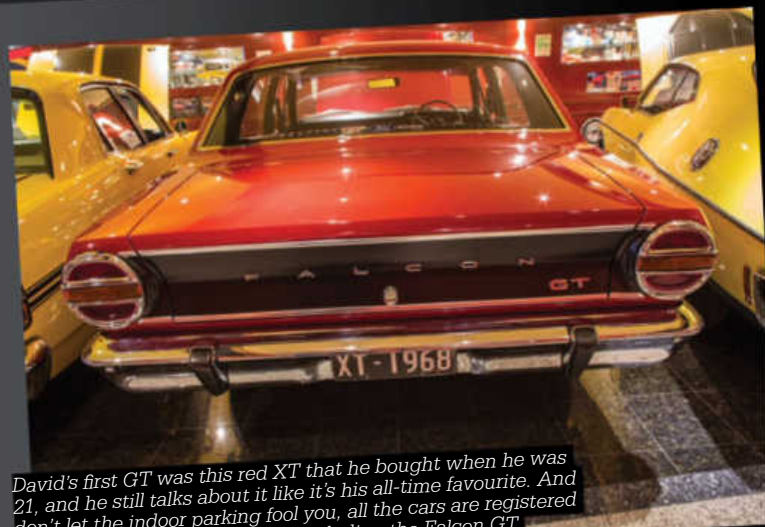
Starting outside the shop, the bollards separating the car park from the building are 9in diffs set into the concrete at one end, and there's a pair of cylinder heads and a couple of Toploader gearboxes set into the concrete out front as well. The front door has a suspension rod for an outer handle and a sway bar for an inner handle, whilst the inner doors to the foyer area have GT wheel caps as push pads.

More than that, the various fittings and fixtures have been made out of genuine parts. There are Globe and 12-slot wheels with Olympic Reflex Radials and Dunlop Aquajets mounted in the roof with various



***HAVING THE CONFIDENCE TO SPEND GOOD MONEY
ON PARTS COMES FROM CREDIBILITY AND GT FORD
PERFORMANCE HAVE THAT IN SPADES***





David's first GT was this red XT that he bought when he was 21, and he still talks about it like it's his all-time favourite. And don't let the indoor parking fool you, all the cars are registered and get driven to many events including the Falcon GT Nationals which usually means trip interstate

lights hanging from them, one of which is made up of headlights and driving lights. And then there is a chandelier made using valves and pushrods for decoration.

The high walls near the front feature murals on the brickwork painted by a retired school teacher named George. They replicate some of Ford's marketing campaign images from the muscle car period. Below the mezzanine level towards the back the walls have reproductions of various print ads, brochures articles and posters hung on them, and framed pictures of GTs racing at Bathurst as well.

The display cabinets contain some items that are for sale, or at least representative of what they can sell or refurbish for you, and others that aren't for sale. For instance, neither love nor money will get them to part with the very rare Gallaher cigarette packet (sponsors of the Bathurst 500 in 1966 and 1967).

WICKED WORKSHOP:
ULTIMATE PARTS BIN
GT FORD PERFORMANCE



The storage area contains a mix of NOS and good-used parts such as these panels



THE PRODUCTS

As examples of the things that GT Ford Performance can refurbish, people bring in things like dash fascias, sunroof cables and interior switches to have them restored to new condition. They will also do exchanges on electrical items like alternators. And in addition to the parts that can be refurbished, GT Ford Performance supply NOS XR-XC parts including panels, and they offer reproduction parts too. Of those repro parts, they've either tested it themselves (and possibly modified it for a proper fit), or had it made to their exacting specifications. They make their own lenses for example, as well as some authentic-

looking bolts and fasteners.

The shop doesn't cater exclusively for genuine and replica GTs either. Since there is plenty of overlap not just in the parts but also the knowledge, they sell or refurbish all sorts of things that you might need for a Fairmont, Fairlane, Landau or LTD from the '60s and '70s as well. They also offer some early Mustang parts.

The shop has a good website as well with full price lists available in PDF format and a bit over half their sales are actually shipped out rather than passed over the counter. The web address is www.gtfalcon.com.au and the home page also has a portal to their Falcon GT Garage which has all sorts of useful information on classic Falcons, GTs and Fairlanes.





Reproductions of various brochures and articles adorn the shop walls as well

THE STAFF

GT FORD PERFORMANCE-58

David Frake is the shop owner, and he managed it himself until 2011. He then hired Michael Hansen to take over the role of shop manager. As an interesting side note, in 2013 Michael also became the presenter of TV show Gasolene (now on information channel 4ME), replacing Glenn Everitt who left to make a new show on TVS.

Also working the shop is Matt Rowe who looks after the dispatch area and has done so since late 2013. And then there is the expertise of Zed Tadic who has been with GT Ford Performance for the past 14 years. Zed was previously a mechanic at a Ford dealership so he knows a lot more than just the name of that obscure part that you've been searching high and low for.



THE SHOP HAS A GOOD WEBSITE AS WELL WITH FULL PRICE LISTS AVAILABLE IN PDF FORMAT AND A BIT OVER HALF THEIR SALES ARE ACTUALLY SHIPPED OUT RATHER THAN PASSED OVER THE COUNTER

WICKED WORKSHOP: ULTIMATE PARTS BIN GT FORD PERFORMANCE



Nothing says original like the correct tailshaft for your car



UNTOUCHED

As you may have already assumed David owns the XB GT Hardtop in the shop, and it is an unrestored car that he has owned for about 12 years now. It's a heavily-optioned car with all sorts of luxuries that Ford made available in the mid-'70s and like the others, it also carries full road registration so it can be driven whenever David feels like giving it a run.

Additionally David also owns an EL GT that wasn't in the shop at the time of our photo shoot, but it is a bit out of the ordinary. It's not one of the 250 limited to Australia, the 20 sent to New Zealand or the two sent to South Africa, it's actually one of the pre-production evaluation cars, marked as P04 (P standing for pilot). It was bought about eight years ago and like the others in the collection it gets driven to the Falcon GT Nationals each year as well.

OUT AND ABOUT

David's GTs are regularly driven to shows and events as well as purely for the purpose of driving them. Michael says that plenty of hands go up when they look for volunteers to help drive the fleet to an interstate event such as the Falcon GT Nationals.

GT Ford Performance are also long-term sponsors of the Falcon GT Nationals and will undoubtedly be a part of the 2017 event which will be held in Perth, Western Australia (April 14-17). **PG**

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WICKED WORKSHOP:
KYLE HOPF
6BOOST

ACCIDENTALLY

Kyle Hopf has gone from making turbo pipes and manifolds for himself and friends to starting and continually expanding the world-reaching empire that is 6Boost



FAMOUS

STORY BY SAM HOLLIER PHOTOGRAPHY BY DANIEL WARD



WICKED WORKSHOP:
KYLE HOPF
6BOOST

Dale's previous experience is wrought iron metal work. Now he mostly welds manifolds and helps with the race car fabrication

6Boost's first innovation was the use of the merge collector in all manifolds right from the very first one that Kyle ever made

THEY ARE THE LONGEST-STANDING TURBO MANIFOLD MANUFACTURER IN AUSTRALIA

Kyle Hopf of 6Boost would have to be one of the most recognisable names in the Australian automotive aftermarket. In fact 6Boost is now an international brand selling turbo manifolds to people around the world, particularly to the United Kingdom, the United States and New Zealand. On top of that they are the longest-standing turbo manifold manufacturer in Australia.

One aspect of his designs that Kyle is very proud of is the use of a merge collector which he incorporated from the very first turbo manifold that he

ever made. He points out that at the time, 2005, that was very rare, and he's absolutely certain that 6Boost was the first Australian manufacturer to base their designs around it.

Innovation and expansion, even relocation, have all taken place in the decade since Kyle sort of accidentally started 6Boost under the house in 2005 by making a manifold for a mate that suddenly lots of people wanted. But first we shall tell you a bit about how Kyle came to be who he is and so very good at what he does.



THE EARLY YEARS

Kyle is from Toowoomba, Qld, which is roughly an hour and a half west of Brisbane. As a student he tells us that in high school he was good at Shop A (woodwork) and Shop B (metalwork), to the point where he won awards in metalwork.

Kyle served an apprenticeship at Grainco (a company that has since been taken over by GrainCorp) as both a fitter and turner and a boilermaker. A lot of what he worked on was grain processing equipment, and during that apprenticeship he did a lot of modules in welding.

That explains where his metalworking skills were developed, but not of his interest in cars. There were two main influences on this. Firstly there were his role models as a youngster. Kyle's older sisters used to race circuit cars (writer's note; they don't make nearly enough girls like that). And as a teenager he went to live with his sister Debbie who is 12 years older. Her partner at the time had an XY GT replica and he was really into cars so naturally that had an impact on a young man still growing up.

The other influence came just a little later while working at Grainco as a young apprentice. A bloke who also worked there, and had a wild V8 Commodore of his own, gave Kyle a pile of his old Zoom magazines. Kyle started reading them and seeing that, even at that time, there were cars which had turbos and were making as much or more power than V8s which were still largely thought of as the benchmark for horsepower back then. This struck a chord with Kyle

because although he couldn't afford a V8 at the time, he could afford to play with the 4.1L 6-cyl engine in his XF Falcon.

Kyle was still about 17-18 at this time when he started doing research into the finer details of turbo setups and technology. And to illustrate his fastidious attitude towards anything he decides to do, he states that "when I do something I want to know every technical aspect to understand it so when I apply myself I can do the best job possible."

The theoretical learning continued with more interactive methods as well. He spent a lot of time on Performance Forums and other forums, reading threads and asking questions, and over time he says "I grew a knowledge base to understand what I was working with."

Then Kyle told us "I bought my first interesting turbo car, an EA Falcon, in Toowoomba off John Staiv." The car had run about a 12.3 on the quarter mile, mostly as a result of having an AIT turbo kit. He described it as having some good aspects to it and others that were much more basic. For instance it had a Haltech fuel-only computer, but the unchipped factory ECU still performed all the other functions like the ignition which presented something of a limitation. Still, it made 230rwhp like that, however Kyle says he ended up melting a piston when overtaking a cattle truck that was making a mess of the nice paint on the front of the car. With the engine bay emptied to get the broken 6-cyl motor out, Kyle then decided to fabricate his own induction setup and he ended up either rebuilding, replacing or fabricating new everything. Once he was done putting it back together in new and improved form the car made it onto the cover of Zoom issue 79, which was a very appropriate place for it since their earlier issues had inspired Kyle in the first place.



Kyle started 6Boost as a one-man show under his house in Brisbane in 2005



WICKED WORKSHOP:
KYLE HOPF
6BOOST



THE ESTABLISHMENT

Turning his welding skills and his interest in turbocharged engines into the business called 6Boost actually kind of happened without Kyle even realising it straight away. He was living in Brisbane and actually studying to be a personal trainer when a friend, who'd obviously seen his work on the EA, asked him to create an exhaust manifold for a VL Commodore Turbo suitable for a GT35 with a T3 flange. Once it was made this friend showed it off by putting some photos of it up online and within a week Kyle had four orders from people wanting one too.

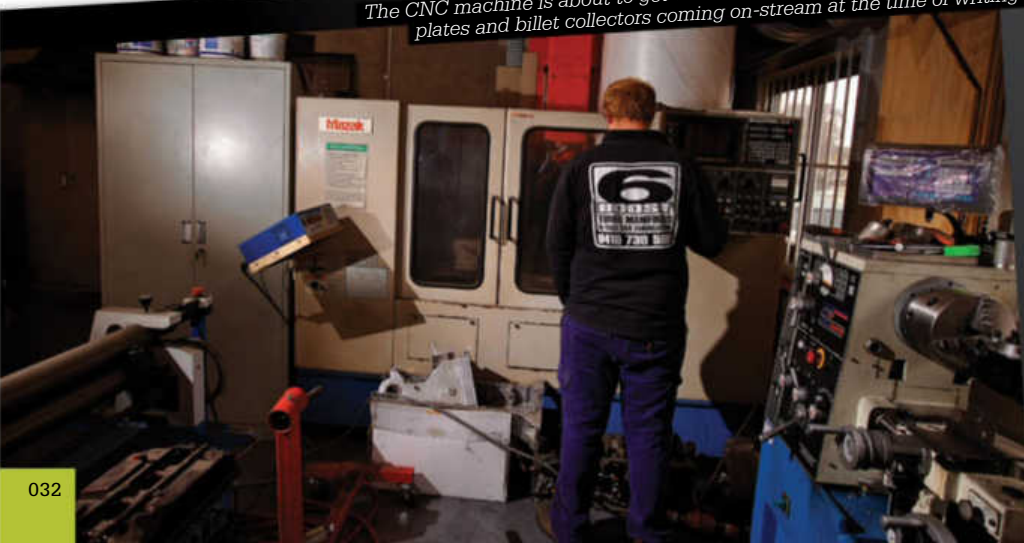
Since the business basically established itself through instant demand for Kyle's innovation and skill, it initially took place on a plastic table under the house he was sharing with his partner. It wasn't long before he decided that he was making too much noise with the drop saw in a residential area so he came to an arrangement that saw him sharing a workshop with Mercury Motorsport in Brisbane.

This was a key stage of expanding the range of manifolds that could be designed because it helped give Kyle access to a variety of vehicles which he used for making manifold jigs and templates. He shared space with Mercury Motorsport for between 18 months and two years before he decided he would move back to Toowoomba where he had grown up and rent a workshop unit of his own.

Kyle explained that at this stage, when he was making all the manifolds himself in Brisbane, the most common complaint was simply the waiting period to have one made and delivered. The return to Toowoomba occurred in about 2007-2008 and he put on two staff immediately, Gavin who is still with him, and Jamie who has since gone on to establish Forced Performance and Tuning in Toowoomba. They stayed in that first unit for about six months before moving to the current address in Vanity Street where they have been for about seven years now.



The CNC machine is about to get a whole lot more use with billet flange plates and billet collectors coming on-stream at the time of writing





A very recent project that Kyle took on has been the XY Falcon of Dean McMahon. It has received a Barra turbo 6-cyl conversion and lots of other fabrication work. It will make 1,000hp but it's only meant to be a family cruiser

6BOOST HAVE ALSO TAKEN ON A NUMBER OF PROJECT CARS IN RECENT YEARS

GROWTH SPURT

The team, the business's now-international reach, and the other fabrication services available have all continued to expand over time. The current team includes Kyle (obviously), Gavin (as mentioned already), Kade who is a qualified sheet metal worker, Matt who does the finishing and packaging, Dale who used to do wrought iron work and now mostly welds up manifolds and also contributes to some of the race car fabrication, and the newest member is Jason (not pictured) who has come on board as the CNC machinist.

Kyle says he concentrated on turbo manifolds for the first five or six years, and then demand for his, and the team's, skills again started adding to the range of services that can be offered. He started doing other

fabrication for friends. For example in around 2010-2011 he began working on Stuart Henry's black Capri, not just creating all the turbo-related plumbing but also going to the drag race meetings as the team's crew chief.

This led to Kyle spending a lot of time on the start line and getting a really good understanding of the importance of good chassis work and perfecting the setup to fully utilise the power that the engine was offering. This in turn led to him working on more friend's and customer's cars to improve their times down the strip. 6Boost will even add wheel tubs or a safety cage if a customer wants it done, and a sheet metal 9in diff isn't out of the question either since that's also on the list of things they've welded up and installed to help shave every last thousandth off the elapsed time.

Kade's area of expertise is that he's a qualified sheet metal worker



WICKED WORKSHOP:
KYLE HOPF
6BOOST

The Maloo is being built for Chris Metcalf. 6Boost is doing all the fabrication work and it will get a twin-turbo 438ci LSX with the aim of making 1,500rwhp





Jigs have been made for a variety of manifolds

INNOVATION

As mentioned, Kyle's earliest innovation was using the merge collector from the very first design, and one of their latest is the use of billet head plates in all their designs; a feature they were busy introducing as we were writing this story. Also at the time of writing, they were gearing up to make and use billet collector plates and, very impressively, billet merge collectors.

These will all be made on their Mazak CNC mill and the benefits to the user will include, in 6Boost's own words, "perfect fitment, better port to pipe transitions and a much nicer finish."

PROJECT CARS

6Boost have also taken on a number of project cars in recent years, doing the fabrication work and outsourcing other tasks like the engine and transmission assembly to other expert workshops that they trust. 6Boost even did the EFI tuning in-house when Jamie was still a part of the team.

Among the amazing cars that Kyle and his team have built for people, and one of their earlier efforts, includes the bright Dash Green 1,100hp FG XR6 Turbo originally known as YUTRYN that was created for Braden Iliffe in 2009-2010. 6Boost managed the project plus they performed the fabrication work, high-flowed the injectors themselves, installed the Atomic engine and Protrans T400, and took care of the tuning.

You've probably spotted a few of the current projects in the workshop photos too. There's a black Maloo that belongs to Chris Metcalf. Kyle says "he wants to make 1,500rwhp", and with two GTX42 turbos blowing into a 438ci LSX is certainly has the potential to. 6Boost have done all the fabrication work with the car now featuring a safety cage and wide wheel arches, and then they'll install the engine that Paramount Performance are building to go with the Powerglide transmission, the Ray Bernard diff and the G-Force IRS.

**KYLE HOPF OF
6BOOST WOULD HAVE
TO BE ONE OF THE
MOST RECOGNISABLE
NAMES IN THE AUSTRALIAN
AUTOMOTIVE AFTERMARKET**

WICKED WORKSHOP: KYLE HOPF 6BOOST

Next to the Maloo sits the SN95 Mustang drag car from Abbott Engines which 6Boost are converting the Small Block Chev engine in it from nitrous assistance to turbocharged induction.

Elsewhere there is a green XY Falcon sedan that belongs to Dean McMahon. It has a late-model DOHC Barra 4L turbo engine rebuilt and modified by Aaron Treymane of Tremaniac Race Engines to make 1000hp, but the car is only meant to be a family cruiser. Kyle has otherwise built the XY, fabricating engine and gearbox mounts, making all the piping, creating a water-to-air intercooler system, to alleviate the need to cut holes for pipes in the front end, fitted in the spare tyre well, built the diff, fitted Wilwood brakes and plenty more. **PG**

Matt does the finishing work and packaging after the manifolds have been cut and welded together



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83.3% of the current team are pictured. There's Kyle with the welding helmet on, Gavin sitting on the stool, Kade over the back, then Dale and Matt. The other 16.6% is Jason who joined as the CNC machinist after the shoot



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**EPIC EVENT:
CALI VW
SHOW SCENE**



WORDS & PHOTOGRAPHY BY STEPHAN SZANTAI

BUG-IN BUGFEST

There's nothing like street cars racing on a street surface to separate the talkers from the doers. Welcome to Cootamundra!





*Palm trees, American flags, slammed Bugs...
Welcome to Garden Grove, California!*

The iconic show attracted a large crowd last May; yet, two preceding events made the experience a real blast: a cruise night, along with the 50th Anniversary of the oldest high-performance Volkswagen club in the world!

Talk about a wild saga... After the closure of Orange County International Raceway in 1983, California's Bug-In found itself without a permanent home until 2005, when promoter Rich Kimball

revived the event. It first took place at Fontana Raceway, and then moved to Irwindale Speedway for three years (2012-2014), before returning to Fontana again in 2015! Rich had to host his Bug-Ins at Irwindale, as Fontana Raceway experienced a few hiccups, specifically noise complaints from neighbours. The issue was resolved after a two-year hiatus, thanks to an expensive wall that exceeds the quarter-mile length of the track.



**EPIC EVENT:
CALI VW
SHOW SCENE**



The ex-Arnie Mohlman '67, still looking good parked with the DKP gang



Japanese VW Type 3 guru Shin Mukai drives this cool Squareback when visiting So-Cal



The Hefler & Sons gasser made a rather hairy pass, not lifting the throttle at any point



Outlaw Turbo competitor Tony Ettensperger put on a fantastic show with his quick buggy





Arnie Mohlman (left) reconnected with his Cal Look '67, now owned by Russell Ritchie (right)



Jim Logudice brought his fabulous '67, motivated by a 2.3-litre motor



There's more than a hint of '80s show car in Manuel Jimenez's '61 Vee Dub



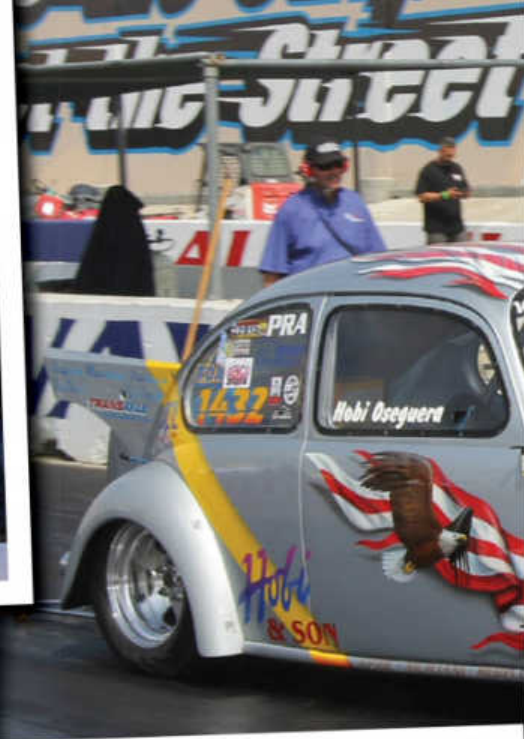
Funky yet well built, this military-themed truck featured great proportions with its chopped top

The return of Bug-In back in '05 truly enthused the West Coast's Volkswagen players. This meet, the 32nd since 1968, managed to capture some of the essence of the original events, helped by various exceptional displays: old VW gassers, land speed record cars, Bug-In memorabilia... A decade forward, special exhibits have disappeared from the programme (sadly some will argue); yet the show itself remains one of the largest in Southern California, still attracting visitors from all over the world. They typically travel to So-Cal not only for Bug-In, but also for other VW-related affairs that precede it.

This year, many were lured by an exceptional event organized on Saturday: the 50th Anniversary of Der Kleiner Panzers club. What a day! DKP is the oldest performance-oriented VW club in the world and the group is still going strong, with over 30 members – most Bugs and Karmann Ghias in the club run the quarter-mile in the 11-, 12- and 13-second brackets.



**EPIC EVENT:
CALI VW
SHOW SCENE**



*Alex Guerdat's excellent
'65 Westfalia*



*Talk about great entertainment, that's Alex
Sotelo's awesome turbocharged Bay Window!*



*Miguel Ruiz has elected
a set of uncommon
Randar wheels for his
turbocharged '59 Ragtop*

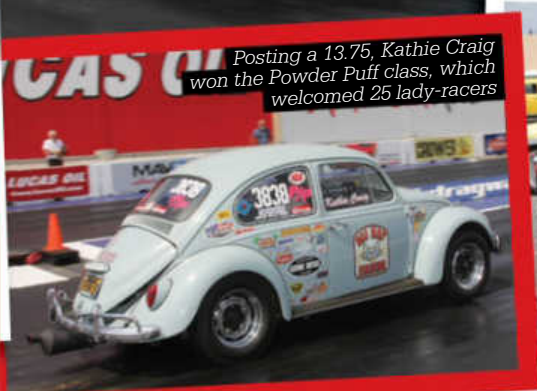
More weekend festivities included Friday's DKP Cruise Night in Garden Grove, as seen in this article's sidebar. With the "California Look" trend playing such a key role in both these get-togethers, members of prominent European high-performance Volkswagen clubs made sure to join the action, too.

This year's Bug-In 40 followed a layout typical of American Vee Dub events, with a car show, a vendors' village and a racers' pit – all three lined up along the racetrack – in addition to a swap meet. In its previous incarnations at Fontana Raceway, Bug-In suffered from the car show being held in a separate section, detached from the dragstrip area. Rich and his son Andy addressed the issue by changing the layout, making it more compact in essence. It worked great, though some complained about the lack of beautiful line-ups in the car show itself – think of early Bugs in one row followed by Karmann Ghias etc. as seen in the past. Volkswagens were simply displayed on a first-come-first-serve basis as you will immediately notice from the pictures.





Hobi Oseguera competes with one of the most colourful drag Bugs – it incidentally runs an automatic gearbox



Posting a 13.75, Kathie Craig won the Powder Puff class, which welcomed 25 lady-racers



Baja Bugs have a number of devotees in So-Cal – this '71 example belongs to Sal Baptista



A Bug-In winner back in the early '80s, Phil Valadez's '57 still looks as good as ever



The Manx Buggy Club had undoubtedly one of the most impressive displays at the show

**EPIC EVENT:
CALI VW
SHOW SCENE**



Beautiful Cal Look '67 from DKK club was for sale – 35,000 Dollars



Famous automotive journalist Pat "Too Tall" Ganahl drove his Oval to Bug-In



The handmade Wild Turkey '62 Baja has not changed since it appeared in HotVWs in '77!



Attractive Steiner-style rims are being used more often in California



Nice stance, eh? James Harris' 1965 Notch sits on airbags and 18-inch rims





Paul Davis' 1963 Variant runs unusual vintage 4.5Jx15 ICMP rims from Japan



Shortened wheelbase and mega turbo engine... Now this Single Cab must be a handful to drive!



Artist Tim Leventry unearthed dozens of ancient VW paint cans - so cool!



Crunchy! Check out the lower sills on this early Bus fitted with Rader-style rims

Highlights in this vicinity included a group of Manx buggies, all parked together. Scottish VW collector Russell Ritchie also sent one of his vehicles to California just for the weekend! He appropriately selected the ex-Arnie Mohlman '67 sedan, "The Last Surviving Original DKP 1st Generation Cal Look Car". As you would expect, it was prominently exhibited with the rest of the Der Kleiner Panzers troupe!

On the race car front, we had great hopes to see a 7-second quarter-mile pass, especially since Dave Perkins ran a 7.99 at 170mph/273kmh during one Saturday, driving his crazy 1303 VW Cabriolet "door slammer"! Wishful thinking... Dave tested the car to make sure it would be ready for the Sacramento Bugorama, a week later. In fact, a bunch of big players chose not to race at Fontana on Sunday to make sure their engines/gearboxes would stay in one piece before 'Sac'. Bug-In 40 still offered some exciting passes though, with tons of impressive wheelies and the Outlaw Turbo category wowing the crowd.

We love watching the mega-detailed 10.42-second '67 of DKP member Allen Wiess



Enjoy Coca Cola! Louie Rodiles certainly does with his '66 Beetle



**EPIC EVENT:
CALI VW
SHOW SCENE**



After a long hiatus, the Renn Käfer Cup (lined up to the left) is back!



Simply the best:
Dave Galassi's
supercharged '62
Beetle now features
a clear deck lid!



Dean Kirsten of HotVWs
Magazine (wearing a 1981
Bug-In shirt) hard at work...

Styled after the California Look, but running like a
drag car. Scott Bakken's Sepia Brown sedan!



The event additionally saw the return of the Der Renn Käfer Cup class, where vehicles are judged on both performances and looks – the DRKC reached its peak about 15 years ago with the 2001 Phoenix Bugorama attracting 20 participants in particular. Congrats to DKP member Scott Pescuma for winning the class at Bug-In 40, behind the wheel of his superb Albatros White Ghia. Robert Kong incidentally posted the class' best ET, 12.10 seconds. This car is fast... To prove it, Robert drove his convertible (top down) from Orange County to Las Vegas a few years ago, running an 11.80-second quarter-mile ET at a VW event, before driving back home!

Although somewhat removed from the original Bug-Ins, today's version remains one of California's favourites, due to its size, packed swap meet and exciting drag racing. Special thanks to the Kimball family for offering Southern California – and visitors – a great place to play! **PG**

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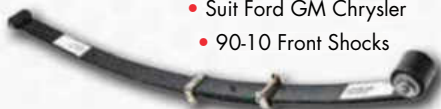
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A man with dark hair and a beard, wearing a blue t-shirt, is seated at a workbench in a workshop. He is focused on a green printed circuit board (PCB) in front of him, using a small tool. The workbench is cluttered with various electronic components, wires, and tools. In the background, there are shelves filled with more components and a spray can labeled 'FRE'. The overall scene depicts a busy, technical environment.

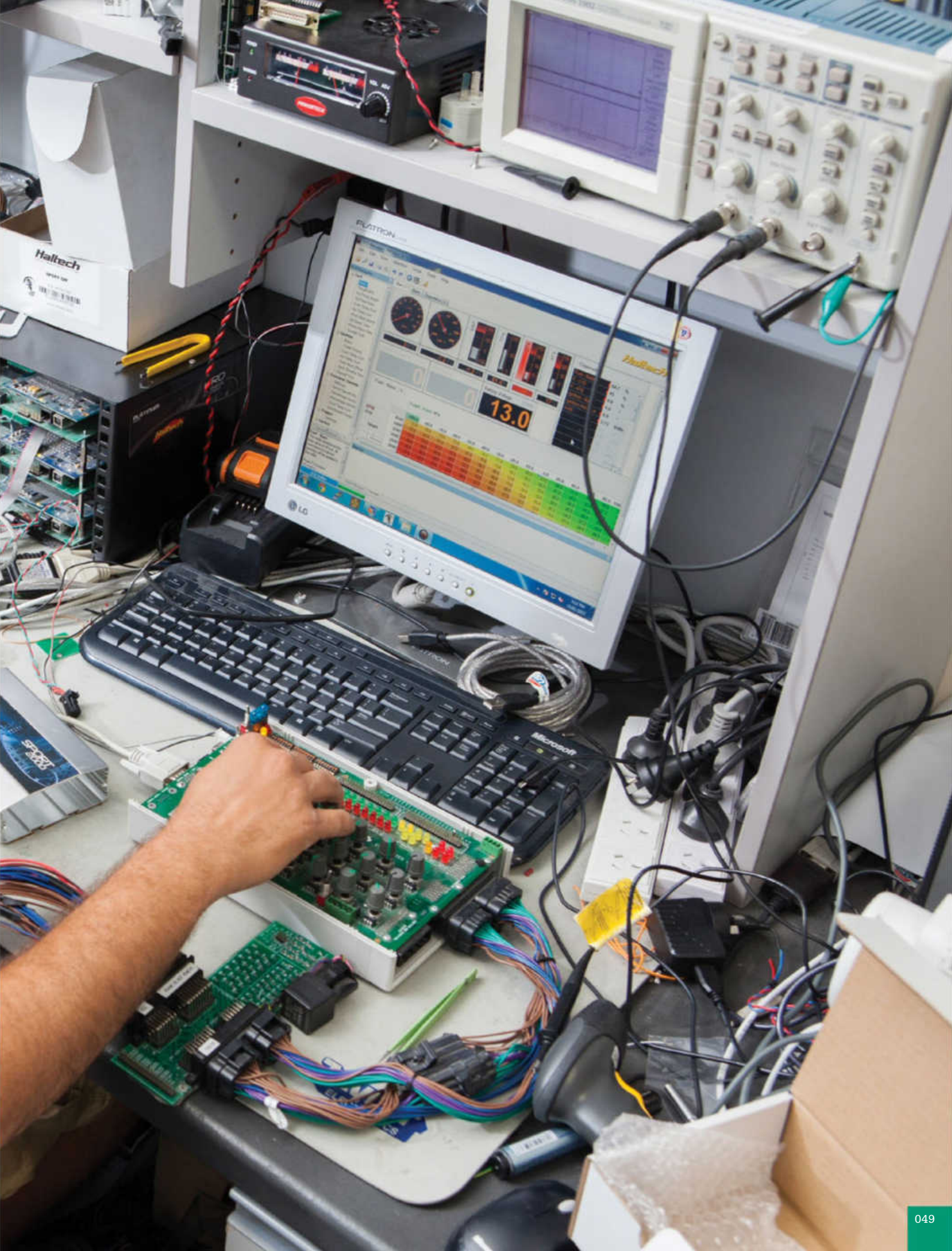
WICKED WORKSHOP:
MAKING POWER
HALTECH

INSIDE

HALTECH

STORY BY ADRIAN HODGSON PHOTOGRAPHY BY ERIC TANG

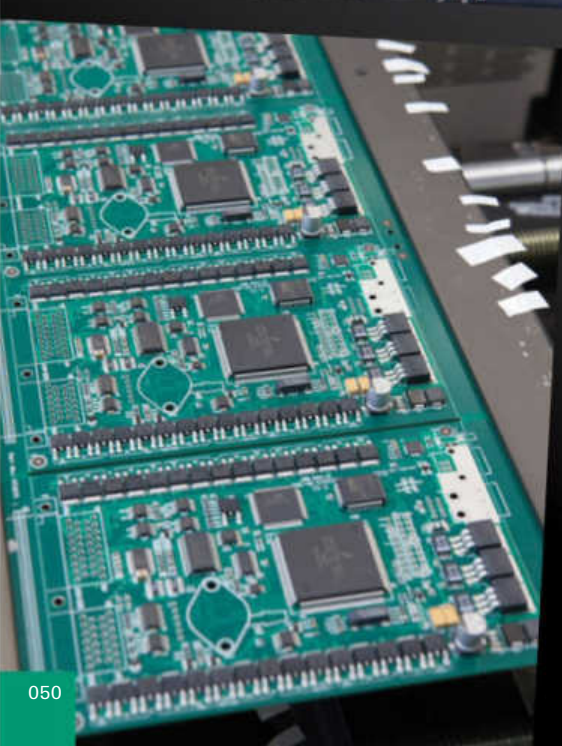
Go inside Haltech, one of the world's top
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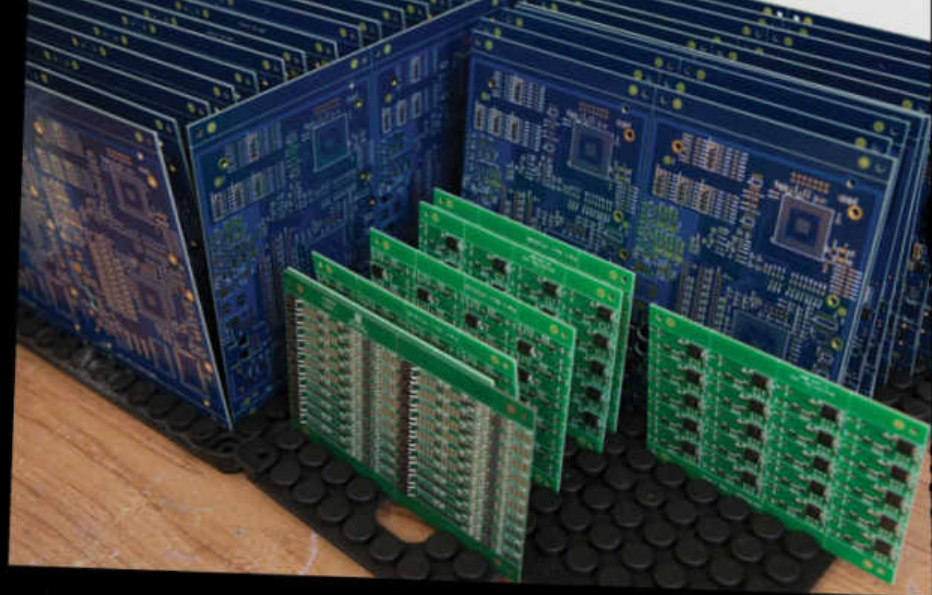


WICKED WORKSHOP:
MAKING POWER
HALTECH



*With dust, humidity
and temperature
control, the room
resembles a medical
research laboratory.*





The JUKI-SMT "Pick and Place" machine, as its name would have it, picks components from a roll and places them in their rightful spot on the PCB. The machine has a capacity of 9000 placements per hour, each Haltech Elite ECU has nearly 2000 individual components so it can produce about 5 new ECUs every hour or one every 12.5 minutes.



For 30 years Haltech Engine Management Systems have helped just about anything with electronic fuel injection to make more power, run faster, be more reliable and keep owners and tuners better informed. It's this dedication to real, worthwhile, repeatable results that has seen Haltech grow to become synonymous with performance in all forms of motorsport and in just about any street car application you can imagine.

The genuine Aussie success story that Haltech has become has seen its class-leading EFI solutions used to great affect not just here in Australia but around the world from the humblest daily driver to

the very fastest things on wheels on the drag strips and salt lakes of the world.

It's likely you've seen the Haltech name in magazines and online before but in this special feature we take the rare opportunity to look inside the worldwide headquarters in Sydney, Australia and to check out exactly how a game-changer like the Haltech Elite ECU goes from bare circuit board to finished retail package and finally to completed EFI implementation. There's plenty more to see online so check out haltech.com for further info or to enquire about how you can make huge improvements to your own vehicle, no matter what it is. PG

STREET OUTLAWS

While you might not have seen them up close and personal, many modified car fans are familiar with the Discovery Channel television show Street Outlaws and the racers that fight for positions in the Top Ten list. What you might not be aware of is that Haltech Elite 2500 ECUs and other data acquisition equipment have found their way onto a number of the regular cast members' rides including Dominator Dart, Derek's Silver Unit, Monza's Sinister Split Bumper, AZN's Dung Beetle, Doc's Street Beast and Kamikaze Kris' El Camino.



The Haltech IQ3 logger dash is probably the most widely used data logging and display tool in Australian performance street and race car builds



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WICKED WORKSHOP: MAKING POWER HALTECH

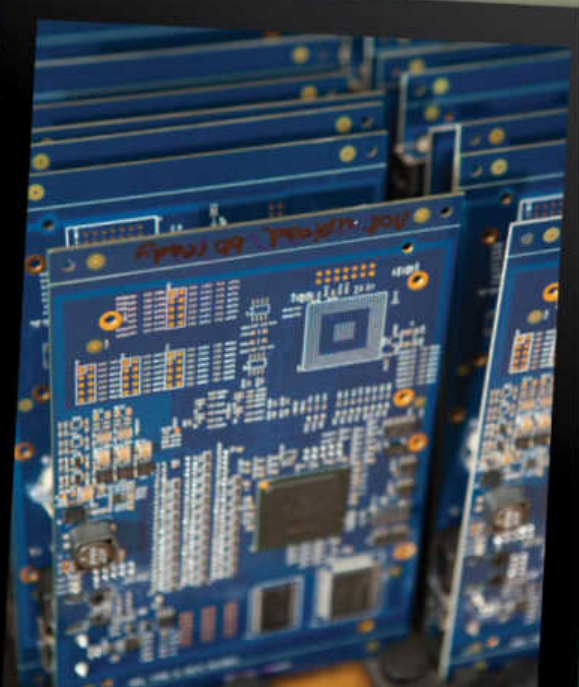
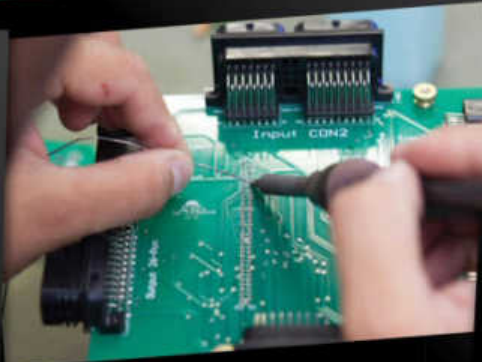


NITROUS EFI

Fuel injected turbo engines have always been the mainstay of aftermarket engine management system manufacturers but with racers injecting more nitrous than ever into their big cubic inch machines, programmable EFI equipment combined with dry nitrous systems is a logical progression. Rather than a conventional wet nitrous system that delivers the extra fuel required, a dry system only delivers the liquid nitrous oxide to the intake manifold

while the additional fuel comes by way of the fuel injectors.

The engine management triggers the nitrous based on any number of predetermined parameters and roughly halves the amount of nitrous plumbing for any given combination. Haltech have been working closely with a number of top level nitrous tuners and have developed a package that can control four nitrous kits at once while providing live sensor information back to the ECU, which has significant performance and engine protection benefits.



DID YOU KNOW?

Haltech were the first aftermarket engine management manufacturer to offer live, real-time, laptop programmable modifications to an ECU? What many modified car owners and tuners now take for granted was once a world first and you have Haltech to thank for it!

THE GENUINE AUSSIE SUCCESS STORY THAT HALTECH HAS BECOME HAS SEEN ITS CLASS-LEADING EFI SOLUTIONS USED TO GREAT AFFECT

INTO THE 5's

Only so much R&D can happen on the test bench with the rest happening in the real world on cars that push the technology to its limits. One such vehicle is owned by Pro Mod racer Bill Lutz. Earlier in 2015 Bill drove his twin-turbo drag Camaro into the five-second zone with a 5.93sec pass at almost 400km/h thanks in part to the Haltech Elite 2500 ECU. In a win for horsepower and consistency, Bill also took out the hotly contested Nitro Jam event.

The PCB at this stage is nearly complete and only needs the main ECU header connector and communications connectors to be soldered onto the PCB. This is done either in a wave solder machine or by hand depending on the connector.

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WICKED WORKSHOP:
MAKING POWER
HALTECH



The boards are now ready to be installed into their cases.





TRACK SUPPORT

We were as surprised as anyone the first time we saw the now familiar Haltech support trailer at the drags on a regular Wednesday night street meet. Equipped with the kinds of bits and pieces racers might need long after regular business

hours, the Haltech support trailer packs the one thing you won't find on any catalogue – expert advice.

We chatted with the Haltech guys briefly about their involvement in grass roots motorsport and it became clear that if they weren't their helping out other racers they'd be racing themselves. These guys live and breathe performance and having someone to bounce ideas off and even check your data log if you're car is so equipped is a massive bonus.

Each ECU is packaged with all the accessories, software and user manual but before the box is sealed it undergoes another, final test. After passing the final test, each ECU is scanned into inventory as a finished item and moved from the production area to dispatch and ready to be delivered to a dealer.



With all the connectors in place, firmware is loaded and the product tested. A custom built test machine passes load across each circuit within the ECU and reports back any errors and the location on the PCB of those errors (if problems are found the circuit in question is reworked to rectify the problem before being put through this production test again). Once the hardware passes initial testing, production level firmware and a base map is loaded into the unit and it is tested again and assigned a serial number.



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ELITE

The new Elite range of Haltech ECUs represents a major leap forward in engine management technology without the prohibitive price tag. The new unit features drive-by-wire compatibility, dual-channel knock control, quad camshaft control and CAN support as well as logging abilities far surpassing what most racers are used to.

The Elite features either 8x fuel and 8 x sequential ignition outputs (Elite 2500), or 4 x fuel and 4 x ignition (Elite 1500), and both pack 28 digital outputs, 10 analogue inputs and six engine position inputs. Both

Blank Printed Circuit Boards (PCBs) are designed in house. This machine places a thin layer of solder paste on the board along the component matrix. What you see in this photo is the solder application in process. The two lenses inspect the quality and depth of the solder paste that has been 'screen printed' onto the PCB.

With the correct amount of solder screened onto each and every location of the PCB, it is now ready to be fed into the JUKI-SMT machine.

units also have user-definable 5D tuning opening up a world of possibilities for smart operators. Broader implementations of the Elite ECU are an option thanks to a water resistant plastic case that is even tough enough to be driven over!

Haltech is famous for its tech support. Between the North American and Australian offices Haltech Tech Support is available almost around the clock. Haltech software allows their support staff to log in remotely to the user's ECU which helps in identifying problems. Issues can be replicated on special desktop modules.

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GOING TO EXTREME'S

Extreme Custom Engineering was founded by Craig Walpole in 2002 and he has been measuring, cutting and welding high-performance components ever since

Words by Sam Hollier Pics by Daniel Ward



WICKED WORKSHOP:
EXTREME CUSTOM
ENGINEERING

Based on the south side of Brisbane, 34 year old Craig Walpole has established himself as a master fabricator whose services are highly sought-after to produce all sorts of components that either aren't available off the shelf at all, or that which is on the shelf just isn't good enough to meet the customer's high standards or performance goals.

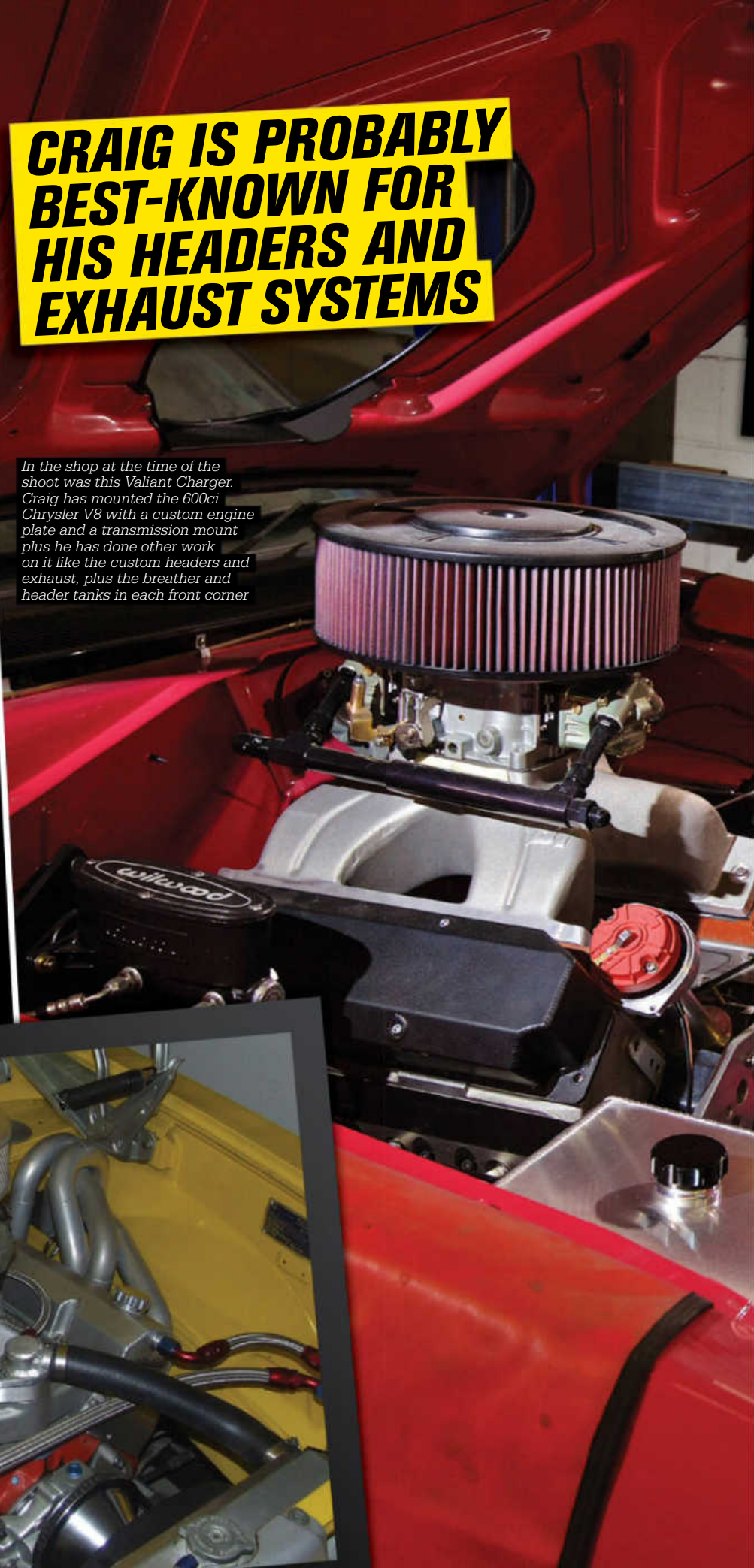
In terms of his background, Craig's dad Brent was a fitter and turner by trade, working as a civilian at the Amberley RAAF base for Tasman Aviation Enterprises (TAE). Craig also remembers his dad spending time in his own home workshop with lathes and mills, making various things including some parts that couldn't be bought for the dirt bikes that Craig raced as a junior.

Craig was 11 years old when he first had a go at making something for himself on the lathe and he's been interested in custom metal fabrication ever since. He did metalwork and woodwork at Runcorn High School and left after year 10 to start an apprenticeship as a fitter and turner at Fulcrum Suspension.

After four years Craig completed his apprenticeship at the age of 19 and then he did a one-year stint at Bryant Engineering in Brisbane, manufacturing engine components such as conrods and mains caps. He then helped another friend at another engine shop for a short time before he came to the decision – while still in his very early 20s – that he should start his own shop.

**CRAIG IS PROBABLY
BEST-KNOWN FOR
HIS HEADERS AND
EXHAUST SYSTEMS**

In the shop at the time of the shoot was this Valiant Charger. Craig has mounted the 600ci Chrysler V8 with a custom engine plate and a transmission mount plus he has done other work on it like the custom headers and exhaust, plus the breather and header tanks in each front corner





GRAND OPENING

Extreme Custom Engineering was opened in November 2002 and Craig rented a 120sqm workshop in Coopers Plains, initially doing what he'd first done at age 11; making parts for dirt bikes that couldn't be bought off the shelf at the time. Most of these were for fun little 50cc machines, also commonly known as Thumpsters, and he manufactured such things as billet components, performance exhausts and triple clamps.



**WICKED WORKSHOP:
EXTREME CUSTOM
ENGINEERING**

Craig's father Brent is a very experienced fitter and turner who used to work for Tasman Aviation Enterprises and wasn't quite ready for retirement when he left there



**"DAD WORKS FOR ME NOW; HE
RUNS THE MACHINE SHOP"**



One advantage that Craig had in this early stage of his enterprise was that his brother-in-law Rodney – who was a mate long before he married Craig's sister Kelly – did and still does work as the spare parts manager at Motorcycles R Us. He would come to Craig asking if certain parts that didn't exist (at the time) could be made, and that not only gave Craig a specific list of what to design and manufacture to fill a recognisable void in the market, but also a channel through which to sell them.

Having already learned how to weld, shortly after opening the shop Craig also decided that he should do the courses and get the qualifications so that anyone commissioning his work could be confident that it had been completed by a certified welder. He went to night TAFE to achieve this, still

in the first half of his 20s at the time.

Craig says things took off from there, and as more people saw his work more of them wanted him to make or modify something for them. He found himself mostly making custom bike exhausts for a while there, and that then transitioned into custom car headers and exhausts, which is what he has been best known for over the past ten years. He has also done quite a lot of general and specialist fabrication work for race cars and other highly-modified vehicles as well.

Meanwhile in October 2006 Craig married his wife Tanya and they now have an eight year old daughter named Mia and a six year old son named Tyler, both of whom currently race in junior motocross like their dad used to. The young riders also have a little brother on the way due at the end of 2015 whose name will be Lincoln.

WICKED WORKSHOP:
EXTREME CUSTOM
ENGINEERING

*Craig says he
does 99% of his
welding with one
of his four TIGs*





BIGGER IS BETTER

In 2010 Craig moved Extreme Custom Engineering to its current larger premises at Unit 2/142 Beatty Rd, Archerfield on the south side of Brisbane. In 2012 Craig's father Brent retired from TAE but Craig reckons that while his dad was ready to finish working there, he wasn't really ready to actually enter retirement. At Craig's suggestion "Dad works for me now; he runs the machine shop," applying his many years of fitting and turning experience to a variety of vehicle parts instead of aviation components.

Since Brent does the turning and milling work on the lathe and milling machine his day will involve doing tasks such as thread cutting, sleeving the snout of a crankshaft to save it from the scrap pile, making custom aluminium pulleys for blowers and

surfacing the faces of a new manifold that Craig has just welded up.

Meanwhile Craig's day normally involves a lot of measuring, cutting and welding, for which he has a MIG and four TIGs, the latter of which get used for 99% of the work since the MIG is only used for a few specific things occasionally. His workshop time is mostly spent mandrel-bending headers, welding turbo manifolds and merge collectors, welding tube and cages, building custom sheet metal 9in diffs, constructing and installing 4-link rear ends, adding mini- and full tubs, making custom aluminium fuel cells, radiators, intercoolers and various other fabrication and installation work.

As an example, in the shop at the time of the shoot was a pink Valiant Charger having work done for a customer. Craig has installed a 600ci Chrysler V8 by fabricating the engine plate, gearbox crossmember, extractors and exhaust, as well as adding a custom aluminium breather tank and header tank while he was at it.

WICKED WORKSHOP:
EXTREME CUSTOM
ENGINEERING

**CRAIG WAS 11
YEARS OLD WHEN
HE FIRST HAD A GO
AT MAKING SOMETHING
ON THE LATHE**

extreme
custom engineering

PERSONAL TOYS

Having played with dirt bikes as a kid, not just riding them but as we mentioned making parts for them from the age of 11, Craig got into cars at about the same time that he was old enough to drive them on the street. His first mode of enclosed transport was a Gemini sedan with, as Craig himself described it, "a souped-up 2L".

That served him well for a while and then he moved on to a collectable piece of Aussie muscle, an HT Monaro GTS 350. Although appreciated for its historical value at the time it was still driven rather than hidden. Craig got around in that for about four or five years before he sold it to buy a house. Part of him wishes he'd kept it, but the rest of him is fully aware that he'd probably still be paying ever-increasing rent instead so it was the right decision.

The next interesting car was a 2-door LJ Torana with a 383ci Chevrolet Small Block V8 which he enjoyed for about three years before taking on the project that he is probably best known for so far.

He decided that he could fit a 2.5L Toyota 6-cyl turbo – specifically a 1JZ-GTE – in a 1983-'85 TG Gemini before he'd even measured either of them up.

He arranged to buy both the car and the engine on the Gold Coast on the same Saturday morning, collecting the vehicle before driving a couple of streets over to pick up the 1J and matching Supra 4-speed auto transmission and take them all back to Brisbane. He figured that if he couldn't make it work he could always sell one or both and build a different combination of body and engine. Meanwhile we reckon that anyone with Craig's fabrication skills could make any engine fit anywhere; firewalls and radiator support panels can be removed and repositioned after all.

As it turned out Craig didn't have to get quite that clever to make the 1J fit, and with a change to the rules allowing slightly bigger forced-induction engines in Qld than before he was also able to make everything about the conversion, and the other mods like the 4-link rear end with a Hilux diff and wheel tubs, legitimately street legal.



Craig stuffed a 1JZ-GTE 2.5L Toyota straight six turbo in this little TG Gemini which appeared on the cover of Zoom issue 178



WICKED WORKSHOP: EXTREME CUSTOM ENGINEERING

Other features included a Haltec ECU and a 3,800rpm stall converter. It made a noteworthy 396rwhp with 18psi and it was a 22 month project to construct. It went onto the cover of Zoom magazine's 178th issue and Craig showed and drove it for a while before it was sold in March 2014 to a bloke who now uses it as a daily driver.

Craig's current project in the build is a HG Kingswood sedan which he has already subjected to a 2-door conversion by moving the B-pillar back 400mm and making custom doors. He has also done a somewhat different engine conversion by installing a highly-modified Landcruiser 4.5L straight-6 turbo motor. It has been upgraded with a multitude of features like a custom inlet and an S400 BW turbo and it is mated to a Powerglide 2-speed transmission. It is being given all the mod-cons so it will be as comfortable and pleasant to drive as any new car, but be way more interesting than any of them. PG



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Craig and Tanya married in 2006 and have produced two junior motocross riders (a girl and a boy) with another boy on the way



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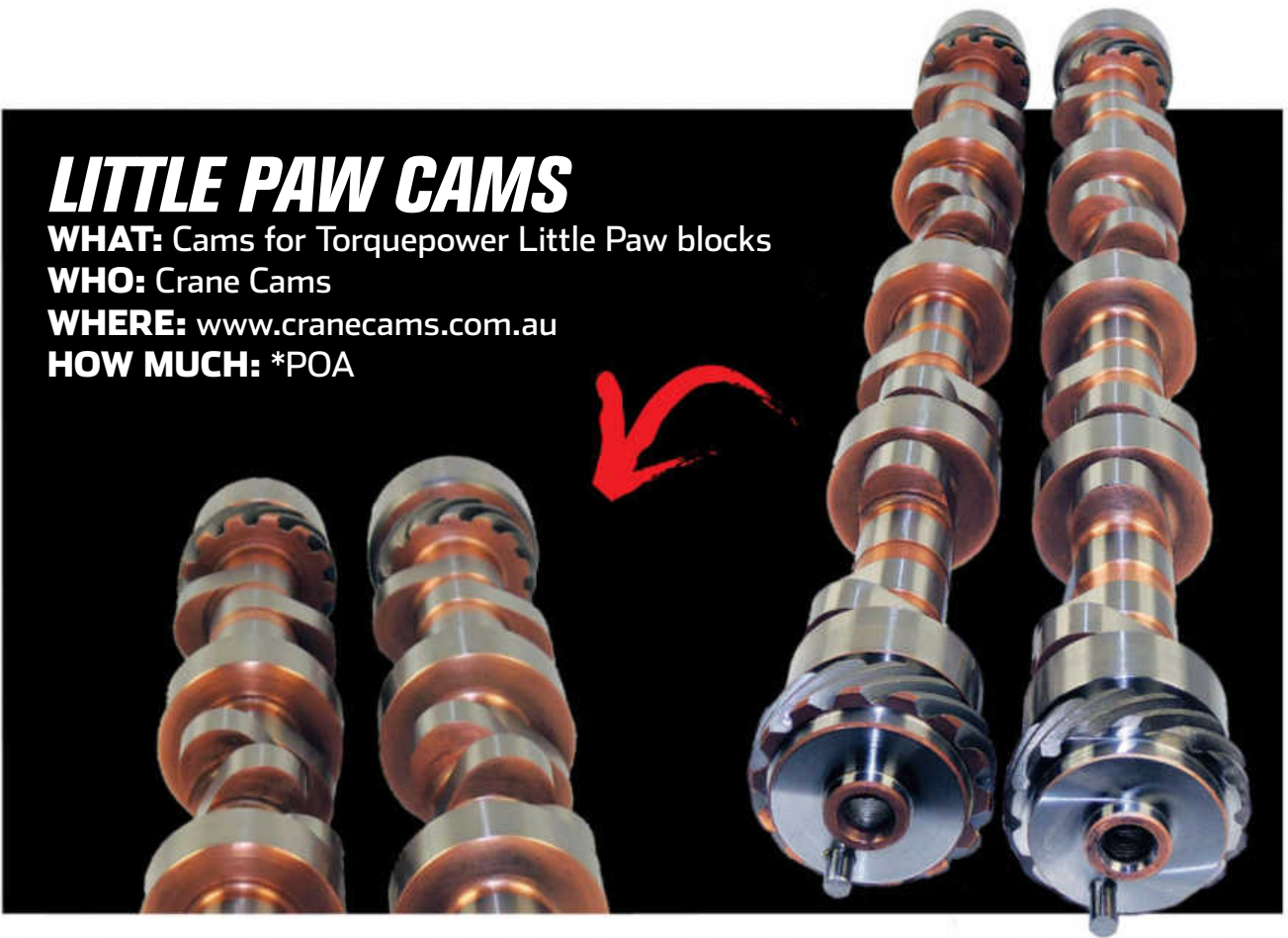
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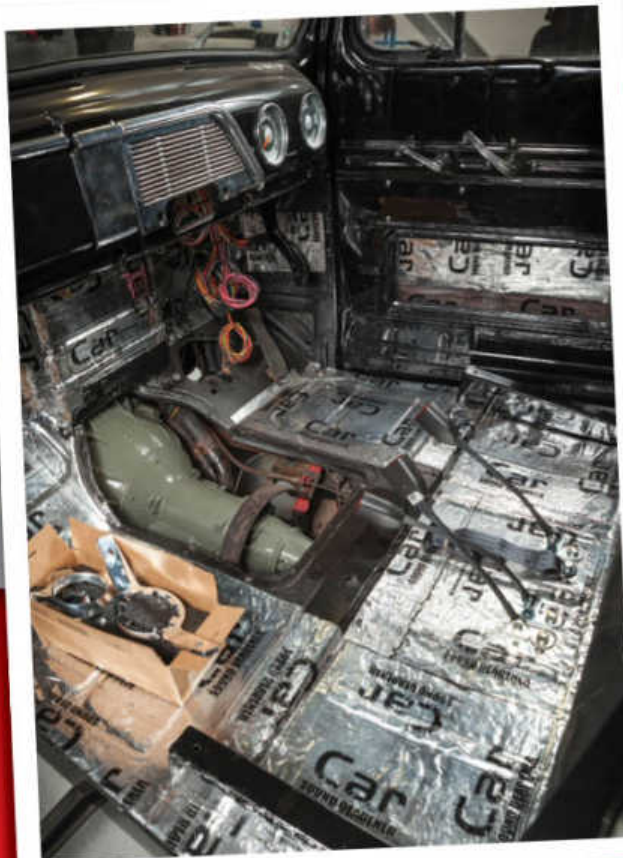
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